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**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**



Inventor(s): KOOK JIN BAE
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Examiner:

Serial No.: Not yet assigned

Art Unit:

Filed: HEREWITH

Title: STABILITY IMPROVEMENT OF
CARBON COPOLYMER IN PVC COMPOUND

#2
04/05/02

INFORMATION DISCLOSURE

STATEMENT

Asst. Commissioner for Patents
Washington, DC 20231

Sir:

In reference to the above-identified patent application and pursuant to Applicant's duty of disclosure, Applicants enclose copies of the following documents.

I. United States Patents:

United States Patent No. 4,957,954 entitled "Stabilizer Compositions for Polyvinyl Chloride Resins and Stabilized Polyvinyl Chloride Resin Compositions" by Lizuka et al., issued September 18, 1990;

United States Patent No. 5,004,776 entitled "Stabilized Chlorine-Containing Resin Composition" by Tadenuma et al., issued April 2, 1991;

United States Patent No. 5,025,051 entitled "Synthetic Resin Composition" by Sato et al., issued June 18, 1991;

United States Patent No. 5,190,700 entitled "Flame Retardant for Halogen-

Containing Vinyl Resins" by Watanabe et al., issued March 2, 1993;

United States Patent No. 5,519,077 entitled "Stabilized Polyvinyl Chloride" by Drewes et al., issued May 21, 1996;

United States Patent No. 5,543,449 entitled "Stabilized Flexible PVC" by Drewes et al., issued August 6, 1996;

United States Patent No. 5,575,951 entitled "Liquid Stabilizers Comprising Metal Soap and Solubilized Metal Perchlorate" by Anderson, issued November 19, 1996;

United States Patent No. 5,925,696 entitled "Stabilized Combinations for Chlorine-Containing Polymers" by Wehner et al., issued July 20, 1999;

United States Patent No. 6,194,494 B1 entitled "Stabilizer Combinations for Chlorine-Containing Polymers" by Wehner et al., issued February 27, 2001.

II. Foreign Patent Documents:

Canadian Patent Application No. 2,096,490 entitled "PVC Moulding Compositions Stabilized by Organotin Compounds" by Kaufhold et al., published November 1993;

Canadian Patent Application No. 2,137,868 entitled "Stabilizer for Chlorine-Containing Polymers" by Kaufhold et al., published June 1995;

Canadian Patent Application No. 2,179,367 entitled "Stabilized PVC Compositions for the Preparation of Mouldings" by Kuhn et al., published December 1996;

Canadian Patent Application No. 2,179,954 entitled "Halogen-Containing Polymers Provided with an Antistatic Agent" by Hilti et al., published December 1996;

European Patent Application No. EP 0 246 867 A2, by Kobayashi et al., published May 1987;

PCT International Application No. WO 93/02133 by Rogers et al., published

February 3, 1993;

PCT International Application No. WO 94/24200 by Anderson, published October 27, 1994;

Japanese Application No. 10228487 entitled "Stabilizer for Polyvinyl Chloride Resin and Polyvinyl Resin Composition" by Takashi et al., published January 2000;

Japanese Application No. 59129784 entitled "Chlorine-Containing Resin Compounds" by Akamine et al., published January 1986.

III. Other References:

Farago et al., "Complexes of Nickel(II) with Ethylenediamine and Perchlorate or Tetraphenylborate" Journal of Chem. Soc. (A) at pages 820-824 (1967);

Lewis et al., "The Crystal and Molecular Structure of Di- μ -hydroxo-bis[2-(2-ethylaminoethyl)pyridine]dicopper(II)Perchlorate". Inorganic Chemistry, Vol. 11, No. 9 at pages 2216-2221 (1972);

Voegelé et al., "Complexes de Cations Alcalins et Alcalino-Terreux avec des Ligands Tripodes. II. Structure Cristalline du Complexe Triethanolamine-Iodure de Sodium" Acta Cryst. (1974) B30, 62 (1974);

Donatti et al., "Improved Instrument Panel Heat Age Staining Properties-PVC Slush Powder Vinyl" 35th Annual Polyurethane Technical/Marketing Conference, October 9-12, 1994 at pages 665-668;

Naiini et al., "Alkali and Alkaline Earth Metal Chloride Complexes of Triethanolamine: the Structure of $[\text{Sr}(\text{TEA})_2]\text{Cl}_2$ " at pages 2087-2092. (*Polyhedron*) Vol. 16, No. 12. (1997);

Ahmad A. Naiini et al. "Triethanolamine Complexes of H^+ , Li^+ , Na^{2+} , and Ba^{2+} "

Perchlorates" appearing in Inorganic Chemistry, Vol.33. No. 10 (1994) pp2137-2141;

Ahman A. Naini et al., "New Complexes of Triethanolamine (TEA): Novel Structural Features of $[Y(TEA)_2](ClO_4)_3 \cdot 3C_5H_5N$ and $[Cd(TEA)_2](NO_3)_2$ "; pp 393400; (1995) Elsevier Science Ltd., *Polyhedron* Vol. 14, No. 3.

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Japanese Abstract: JP 05025318;
Japanese Abstract: JP 05039397;
Japanese Abstract: JP 05078499;
Japanese Abstract: JP 05125241;
Japanese Abstract: JP 05287144;
Japanese Abstract: JP 05320547;
Japanese Abstract: JP 06297624;
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Japanese Abstract: JP 09174721;
Japanese Abstract: JP 09208777;
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Japanese Abstract: JP 09302180;
Japanese Abstract: JP 10158451;
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Japanese Abstract: JP 11020101;
Japanese Abstract: JP 11116752;
Japanese Abstract: JP 11152384;
Japanese Abstract: JP 10219057;
Japanese Abstract: JP 11209544;
Japanese Abstract: JP 11302486;
Japanese Abstract: JP 11320772;
Japanese Abstract: JP 62079249;

Japanese Abstract: JP 62252445;

Japanese Abstract: JP 01079245;

Japanese Abstract: JP 01236252;

Japanese Abstract: JP 01252649;

Japanese Abstract: JP 03103451;

Japanese Abstract: JP 04183735;

Japanese Abstract: JP 04359949;

Japanese Abstract: JP 06145448;

Japanese Abstract: JP 06271731.

EP Abstract: EP 750013 A;

The citation of the listed items is not a representation that they constitute a complete or exhaustive listing of the relevant art or that the references are prior art. The items listed are submitted in good faith, but are not intended to substitute for the Examiner's search. It is hoped, however, that in addition to apprising the Examiner of these particular items, they will assist in identifying fields of search and in making as full and complete a search as possible.

The filing of this information disclosure statement is not an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

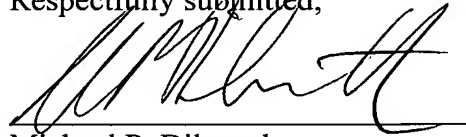
Please charge any deficiency, as well as any other fee(s) which may become due under 37 C.F.R. §1.16 and/or §1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account 23-2656. Also, in the event any extensions of time for responding and/or a petition under 37 C.F.R. §1.17(i)(i) are required

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Date: January 11, 2002

Respectfully submitted,



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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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		2. Lewis et al. "The Crystal and Molecular Structure of Di-u-hydroxo-bis[2-(2-ethylaminoethyl)pyridine]dicopper(II)Perchlorate", appearing in Inorganic Chemistry, Vol. 11, No. 9 at pages 2216-2221 (1972);
		3. Voegele et al., "Complexes de Cations Alcalins et Alcalino-Terreux avec des Ligands Tripodes. II Structure Cristalline du Complexe Triethanolamine-Iodure de Sodium" Acta Cryst. (1974) B30, 62 (1974);
		4. Donatti et al., "Improved Instrument Panel Heat Age Staining Properties-PVC Slush Powder Vinyl", 35 th Annual Polyurethane Technical/Marketing Conference, October 9-12, (1994) at pages 665-668.
		5. Naiini et al. "Alkali and Alkaline Earth Metal Chloride Complexes of Triethanolamine: the Structure of $[Sr(TEA)_2]Cl_2$ " at pages 2087-2092. (Polyhedron) Vol. 16. No. 12. (1997);
		6. Ahmed A. Naiini et al. "Triethanolamine Complexes of H^+ , Li^+ , Na^+ , and Ba^{2+} Perchlorates" appearing in Inorganic Chemistry, Vol. 33, No. 10 (1994) pp 2137-2141;
		7. Ahman A. Naini et al. "New Complexes of Triethanolamine (TEA): Novel Structural Features of $[Y(TEA)_2](ClO_4)_3 \cdot 3C_2H_5N$ and $[Cd(TEA)_2](NO_3)_2$, pp 393400; (1995) Elsevier Science Ltd., Polyhedron Vol. 14, No. 3.
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		Japanese Abstract: JP 05078499 Japanese Abstract: JP 05125241; Japanese Abstract: JP 05287144; Japanese Abstract: JP 05320547; Japanese Abstract: JP 06297624; Japanese Abstract: JP 06340788; Japanese Abstract: JP 07062181; Japanese Abstract: JP 07149979; Japanese Abstract: JP 07149980;

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